

***Bulolia*, a new genus of Salticidae (Arachnida: Araneae) from Papua New Guinea**

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***Bulolia*, a new genus of Salticidae (Arachnida: Araneae) from Papua New Guinea.** - *Bulolia* gen. nov. and two new species: *B. ocellata* (type species) and *B. excentrica* are described from tropical rain forests of Papua New Guinea. The diagnostic characters of the genus are given and its relationship is discussed.

Key-words: *Bulolia* - *B. ocellata* - *B. excentrica* - taxonomy - new genus - new species - Papua New Guinea - rain forest.

INTRODUCTION

The spider family Salticidae comprises some 4500 described species and is world-wide in distribution. Although it presents huge morphological variety of body shapes, sizes, colours, genitalic pattern and living strategies, it has one character in common. The eyes are usually arranged in three rows, possess a complex structure and are capable of acute vision (LAND 1985). In two groups, Lyssomaninae and Athamae, and in some other unrelated taxa (e.g. *Viciria*, *Orlthrus*, *Mantisatta*, *Syemosyna*) (PRÓSZYŃSKI 1968; WANLESS 1980a-c, CUTLER 1985; CUTLER & WANLESS 1973) the eyes form an additional fourth row. In the case of Lyssomaninae the structure of the copulatory organs and some aspects of behaviour suggest "primitive" status for the group while the position of the Athamae seems derived within the fissident salticids. It is obvious that three or four rows of eyes and their size variation may well occur both in the "primitive" or "derived" salticids and may differ even between closely related genera. On the other hand, the similarities in morphology of legs, chelicerae and genitalia in various unrelated salticid groups is quite often (ZABKA 1990, 1991, 1995).

The methods of specimen examination are routine and described elsewhere (ZABKA 1990). The specimens are deposited in the Queensland Museum, Brisbane (QMB).

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Abbreviations used: QMB - Queensland Museum, Brisbane, AEW - anterior eyes width, AL - abdomen length, CL - cephalothorax length, EFL - eye field length, PEW - posterior eyes width, measurements in mm.

Bulolia gen. n.

Type species: *Bulolia ocellata* sp. n.

Etymology: The name is derived from the locality, Bulolo River area (Papua New Guinea, Morobe Province) and is feminine in gender.

Diagnosis. Medium sized (5–6 mm) spiders. The eyes arranged in four rows. Thoracic slope distinctive, anterior legs long and strong, embolus twisted, seminal reservoir meandering, bulbous without posterior lobe, tibia with single retrolateral apophysis or with additional prolateral process. In comparison to similar (related?) *Athamas* the spiders larger, abdomen more elongated and anterior legs relatively longer.

Relationships. The shape of the cephalothorax and the structure of the palpal organ of the genus *Bulolia* show similarities to the genus *Athamas* (Figs 17–19). Both possess distinctive thoracic slope, meandering seminal reservoir and twisted embolus. The most obvious difference is in the structure of the anterior legs: relatively delicate in *Athamas* and strong and elongated in *Bulolia*. Also cheliceral dentition is slightly different, being fissident in *Athamas* and intermediate in *Bulolia*. Discussing the relationships of "lower" and "true" salticids, WANLESS (1980c) pointed out that the eyes may differ in size and in arrangement both in distant and related taxa (Figs 17, 20, 22, 24, 26). Thus it seems reasonable to hypothesise that similar eye arrangement present in jumping spider may well be a "primitive" (Lyssomaninae) or a "derived" (Athamae) character. Also the genitalic structure in Salticidae is of limited use, being simple and similar even in different sections and subfamilies (ZABKA 1995).

Bulolia ocellata sp. n.

(Figs 1–3, 9–10)

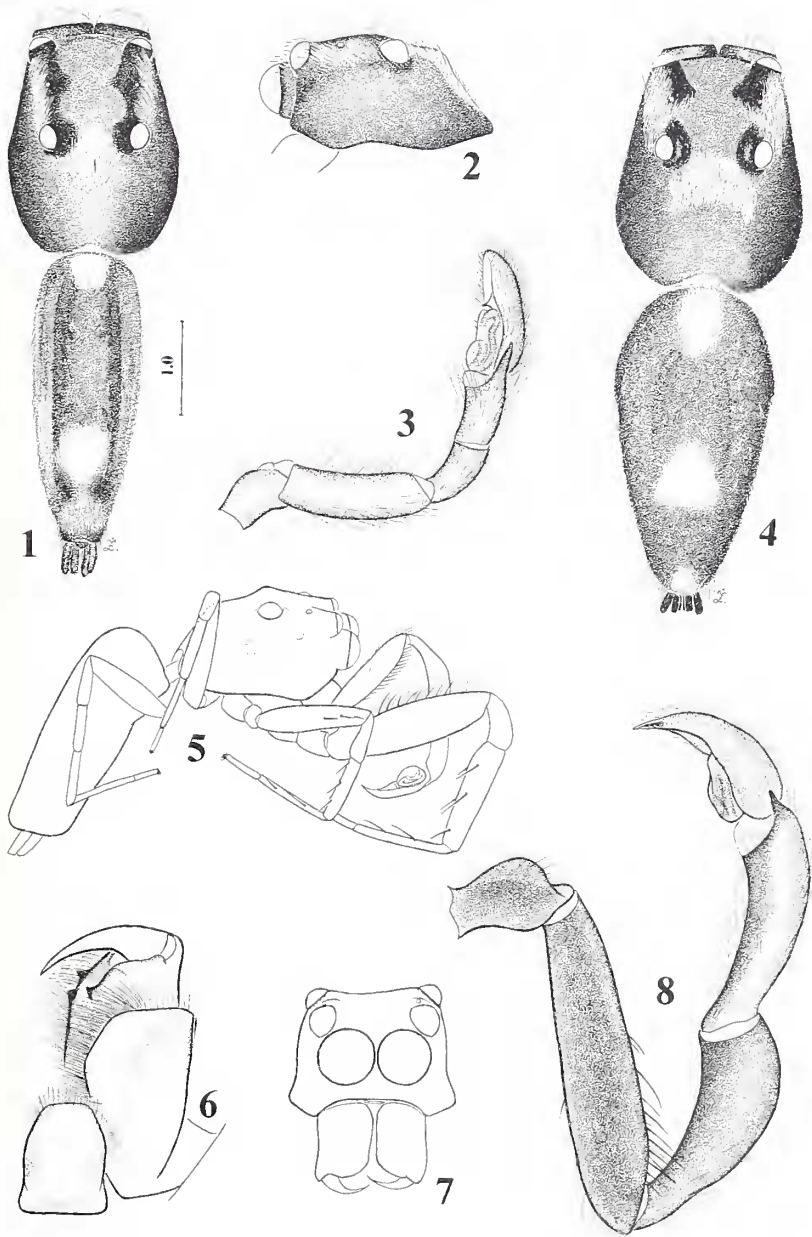
Material: Male holotype, Papua New Guinea: Central Province, Varirata National Park, rain forest, 24 Aug. 1985, leg. D.J. Court, QMB.

Diagnosis. Abdomen with two spots of white hairs, palpal patella and tibia neither elongated nor swollen, cymbium not pointed, prolateral tibial apophysis missing. Stridulating spines on femur of pedipalps and first legs absent.

Description. Cephalothorax dark-orange, darkening towards lower margins, lighter on eye field. Eye surrounding darker. Fovea region and eye field sides with numerous white hairs. Abdomen elongated, centrally greyish-brown with two spots of white hairs and with lighter terminal part, sides lighter with greyish coating. Spinnerets grey-brown. Clypeus and chelicerae orange-brown, the latter lighter apically. Maxillae and labium dark-orange, sternum yellow, venter grey. Legs I long, honey-orange, ventrally, dorsally and distally yellowish-orange. Other legs yellow, more delicate. Leg formula: 1–4–2–3.

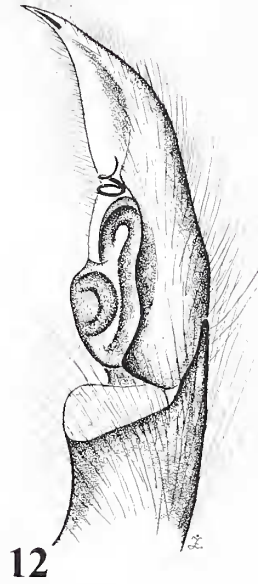
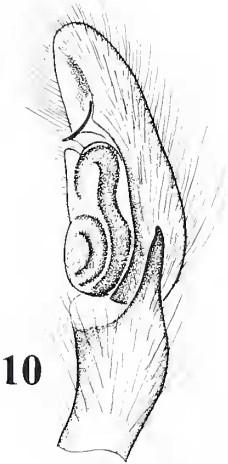
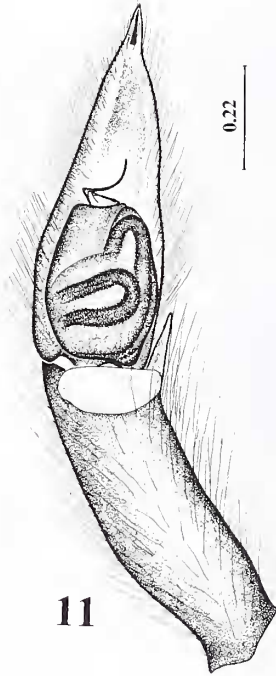
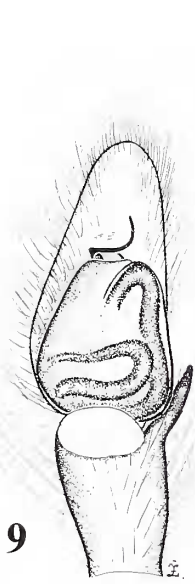
Palpal organ as illustrated in Figs 3, 9–10.

Dimensions: CL 2.15, EFL 1.20, AEW 1.25, PEW 1.20, AL 3.00.



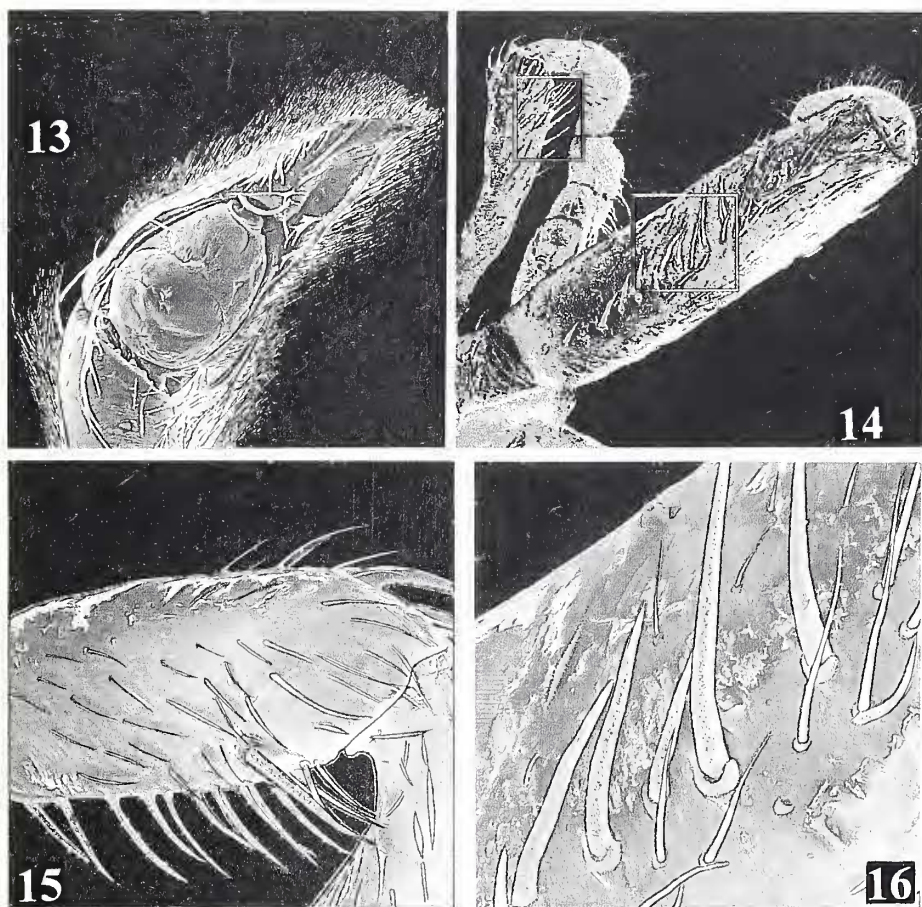
FIGS 1-8

Bulolia ocellata sp. n.: dorsal aspect (1), lateral view of cephalothorax (2), pedipalp (3). *Bulolia excentrica* sp. n.: dorsal aspect (4), lateral view of the body (5), cheliceral dentition (6), frontal aspect (7) and pedipalp (8).



FIGS 9-12

Palpal organ of *Bulolia ocellata* (9, 10) and *Bulolia excentrica* sp. n. (11, 12).



FIGS 13-16

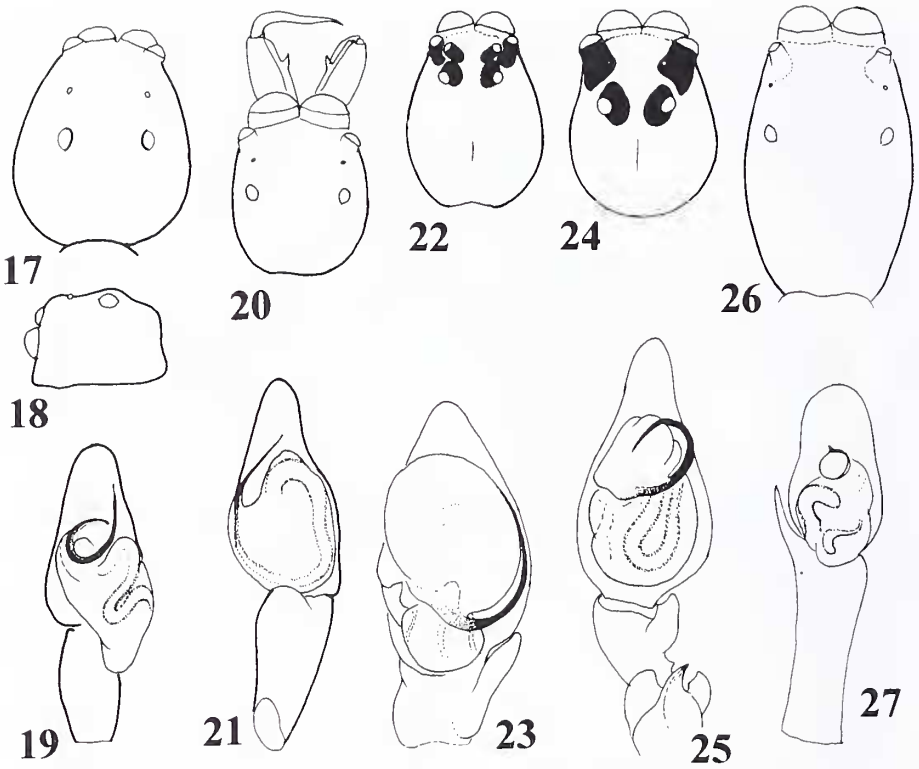
Bulolia excentrica sp. n.: palpal organ (13), femoral spines on pedipalp and leg I(14), femoral spination on the pedipalp (15) and femoral spines on leg I(16).

Bulolia excentrica sp. n.

(Figs 4-8, 11-16)

Material: Male holotype, Papua New Guinea: Central Province, Varirata National Park, rain forest, 2 June 1985, D.J. Court, QMB; male paratype, Morobe Province, Bulolo River area, J.B. McAdam National Park, lower mountain forest, 900 m., on *Araucaria* trunk, 10 July 1988, D.J. Court, M. Zabka, QMB.

Diagnosis. Abdomen with three dorsal light spots. Pedipalps strongly elongated, patella and tibia swollen, the latter with additional prolateral apophysis, cymbium pointed. Femora of pedipalps and first legs with rows of (stridulatory?) spines (Figs 14-16).



FIGS 17-27

Eye arrangement and genitalic pattern in various unrelated genera: *Athamas* (17-19); *Orthrus* (20, 21), *Asemonaea* (22, 23), *Pandisus* (24, 25); *Mantisatta* (26, 27). Drawings from CUTLER & WANLESS (1973), WANLESS (1980*b, c*), JENDRZEJEWSKA (1995).

Description. Cephalothorax orange-brown, slightly darkening towards the lower margins, eye surroundings darker. The sides of eye field and fovea region covered with numerous white hairs. Abdomen elongated, its central part light-brown with three spots of white hairs. Laterally abdomen greyish with lighter spots, spinnerets darker. Clypeus brown, chelicerae (Fig. 6) lighter, especially in apical parts. Maxillae (Fig. 6) elongated, dark-orange with small darker spots. Labium brown. Sternum rather wide, yellow with orange margin. Venter grey-brown. Legs I massive and long, brown, their dorsal and ventral parts yellow-orange. Femora with a row of spines (Fig. 16). Other legs shorter and more delicate, yellowish. Leg formula: 1-4-2-3.

Palpal organ shown in Figs 8, 11-13, palpal femur with strong spines (Fig. 15).
Dimensions: CL 2.35, EFL 1.30, AEW 1.15, PEW 1.25, AL 3.25.

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